

Since 1993, Triangle Research International (Tri) has been manufacturing programmable logic controllers (PLCs) optimized for embedding into OEM applications. These high-value PLCs are supported by our highly acclaimed TRiLOGI software, which reduces programming of complex tasks to a few simple keywords.

## INTEGRATED PLC DESIGN - FOR OEM

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The "integrated" design of TRi PLCs is optimized for cost-conscious yet technologically advanced OEMs. TRi PLCs combine the most useful OEM features with rigorous quality control to meet manufacturers needs. The open-board design of TRi PLCs, the sophisticated yet simple programming language and the highly competitive pricing make TRi PLCs a practical and easy choice for integrating into any of your applications.

## INDUSTRIES AND APPLICATIONS

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- **Medical Electronics** (eg., control of PET scan machine)
- **Packaging and Assembly** (eg., measurement of testing system control)
- **Material Handling** (eg., control of conveyor systems and elevators)
- **Water Treatment** (eg., waste water recycling )
- **Networked Applications** (eg., distributed system monitoring, remote data logging & troubleshooting)
- **Building Automation** (eg., security alarm, temperature control, central vacuum)
- **Others** (eg., coal mines, in-vehicle/vessel warning systems)

## CUSTOMERS

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- GE Healthcare
- Siemens Medical
- GE Calibration
- Philips
- SGS Thomson
- Intel
- Western Digital
- Hitachi Canada Industries
- Emerson Process Management
- .... and thousands of other  
Original Equipment Manufacturers!

## USER COMMENTS

*"For the past 15 years, we've used nearly all brands on the market - Siemens, Hitachi, Modicon, Mitsubitshi and so on - to set up control systems. Recently, we came to know about the TRi brand of PLCs and the difference between the traditional brands and the TRi brand is amazing. **Just ask my programmers and they will tell you that the TRi-PLCs are just the best system to fit nearly***

*"I recently calculated the cost of the last system my company did. We used the TRi-PLC and it costs \$295. Had we done it with a Hitachi configuration, it would easily set us back by \$3,000. Now, that's a significant difference."*

Read more user stories at : : <http://www.tri-plc.com/testimonial.htm>

## SUPER PLCs WITH ETHERNET

Our Super PLCs come with many built-in advanced features, including a ready-to-use Ethernet port, fast 32-bit CPU, analog I/Os and connection ports for other devices - all at affordable prices. Programming of super PLCs is kept user-friendly with the powerful i-TRiLOGI™ Ladder+BASIC software.

### The Nano-10 : Just \$129

The Nano-10 PLC is a full-function programmable logic controller packing many features often found only in larger and far more expensive PLCs. This Internet-savvy PLC can easily interface with a whole range of devices that support MODBUS industry standards.



#### Key Features :

- Built-in Ethernet port - MODBUS/TCP/IP support
- 1 RS485 port - MODBUS RTU and ASCII support
- Internet-Programmable - Create your own control web page without writing a single line of code

With the Nano-10 PLC, you no longer have to compromise on quality or sophistication when seeking a nano-sized, affordable PLC. Start small and dream big.

### The FMD-Series **NEW in 2011**

The FMD88-10 and the FMD1616-10 are designed to fit right into the 'sweet spot' for most OEM machine needs today.

As with all Tri Super PLCs, these PLCs are remotely accessible for your programming, machine monitoring and troubleshooting needs, and are extremely easy to integrate into mixed-brand environments and networks.

#### Key Features :

- Built-in Ethernet port - MODBUS/TCP/IP support
- RS232 and RS485 ports - MODBUS RTU and ASCII support
- Built-in Digital and analog I/Os; I/O expansion port
- PWM, PID, encoders, stepper controls
- LCD display interface

The FMD Series represents the next generation of TRi's popular legacy M-series (T100MD+/T100MX+) PLCs.



### The M-Series (Legacy)

The M-series (T100MD+/T100MX+) PLCs were among the world's first PLCs to enable programming via the Internet through the i-TRiLOGI™ client/server software suite. These very popular models have since been succeeded by the more powerful (but similarly priced) FMD-series.

As of March 2011, the M-series will continue to be supplied to current OEMs until further notice.



T100MD888+

## The F-Series : The Powerhouse Suite

The F1616 and F2424 PLCs are built to support the latest technology and automation needs. F-series PLCs can perform machine-to-machine (M2M) communication, send dynamic content to any email address based on specific events and open client connections, extending the superior peripheral device connectivity and Internet programmability of all Tri Super PLCs.

### Key Features :

- Expandable to 256 digital I/Os
- PLC webserver and MODBUS/TCP server
- IR remote control receiver for contactless data entry
- Optional ZigBee wireless radio module (Xbee socket)

The F-series are ideal for the mid-to-high end OEM machine builder and factory /plant system integrators as well as for the building automation designer.



The F-series was featured in *Control Design, Nov 2010*

“Warriner believes they are the **most capable PLCs in their price range**. ‘They are much smaller than higher priced PLCs with similar capabilities, making it much easier to accommodate in our machines.’ “

## CLASSIC PLCs

The TRi Classic PLCs each broke new ground in the world of PLC automation and design when released. These PLCs have a long, proven track record and are ideal as intelligent , low-cost local controllers within sophisticated distributed systems, under the command of a Super PLC or a PC.

### The E10-series

The E10-npn+ and E10-Relay+ PLCs were launched in 1996. These small and low-cost PLCs capably replace all bulky timers, relays or counters in control panels, without additional driver circuit. Each E10+ PLC can work as a cost-effective stand-alone for fast local control or within a network that is remotely monitored by a master PLC or PC.

### Key Features :

- 24V DC transistor outputs or 0-250V AC
- Built-in RS485 two-wire network port - for cost-effective remote control
- Programmable in Ladder Logic (with windows TRiLOGI simulator)
- Auto485 Host Link Command support (ASCII-based)

With the E10 PLC Series, your next control panel project could be *both* more technically sophisticated and lower in price.



### The H-Series (Legacy)

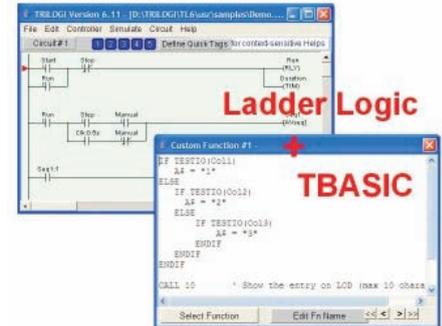
The H-Series PLCs are equipped with traditional digital I/Os and built-in RS232 ports. These PLCs are programmed in standard relay-ladder logic (ie. , no BASIC) through the Win-TRiLOGI software. Due to the popularity of the T28H-Relay and the T40H-Relay models, TRi continues to provide technical support for the H-series PLCs.

## i-TRiLOGI PROGRAMMING SOFTWARE

i-TRiLOGI™ is the name of the Ladder+BASIC programming software pioneered by TRi. It allows users to program and monitor/control the PLC over TCP/IP networks (including the Internet).

i-TRiLOGI turns complex control tasks on these Super PLCs into a few simple keywords. Its ease of use, coupled with its built-in simulator makes it the software of choice for many educational institutes - to date more than half a million copies of the educational version of this software have been downloaded by enthusiastic users!

i-TRiLOGI enables programming, monitoring and controlling of the Super PLCs via any TCP/IP based network, such as LAN and the Internet. PLCs can also be programmed locally via serial RS232 or RS485 using the included TLServer software. TLServer also provides a host of network services to the PLC such as allowing the PLC to remotely open a data file on the PC and read/write data for data logging purpose.



## PLC PERIPHERALS

Triangle Research offers a range of accessories for use with TRi PLCs . They have been thoroughly tested to work with the TRi PLCs for which they are marked as compatible. The use of some of these accessories with other makes of PLCs may or may not be supported and should be checked with TRi's support team in advance.

Accessories/peripherals available include :

- Displays and HMIs
- Expansion / Memory Back-up
- Adaptors and Connectors
- Mounting Kits
- Other items such as spreadsheet data-logging software and PLC power supply



For more information about our PLC accessories and peripherals, please go to our website and look them up under their respective PLC families.

### CONTACT US

General Inquiries : [info@tri-plc.com](mailto:info@tri-plc.com)  
Technical Inquiries : [support@tri-plc.com](mailto:support@tri-plc.com)  
Sales/OEM Quotes : [sales@tri-plc.com](mailto:sales@tri-plc.com)

Tel: 1 877 TRI-PLCS Fax: 1 775 254-1816